

STATISTICS: IN ROUTINE LIFE

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ABSTRACT

There are so many uses of statistics in our daily life. In this article I want to try to elaborate the frequent use of statistics in our daily life. Known and knowingly we use statistics in each and every step of life. There is the use of statistics by birth and end with the end of life. We use the so many statistical tools in home, business, medical, agriculture, and many more fields knowingly without knowledge of statistics like census of anything, sampling, predication, quality testing, inference and causality, etc. These are the parts of statistics by which we are making our life very easy. The uses of statistics, in our daily life, are playing very significant role.

KEYWORDS: *Statistics, Inference, Sampling, Census & Predication*

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INTRODUCTION

In general, students habitually ask the question that what the uses of statistics in daily life are. Statistics is the way to sort out the problems of our daily life. It helps shape our life and solve day-to-day problems without even knowing it. Statistics help us understand our present, future and past. Statistics is part of every field of life, intentionally or instinctively we follow it in our life. Now a day we cannot imagine life without statistics tools but everybody does not know the area and tools of statistics. In each and every field statistics is using very frequently by human.

In each and every field has own limitations but in various forms statistics can be used in every fields like medical, history, geography, prediction, science, agriculture, sports, astronomy, politics and many more. We evaluate data in different fields using statistics; we detect the change blueprint and make conclusions about the future. In this present paper, I want to explain the use of statistics in our routine life. In real life statistics has start its own role by human birth to till death. The field of statistics is the science of learning from data. Statistical knowledge helps you use the proper methods to collect the data, employ the correct analyses, and effectively present the results. Statistics is a crucial process behind how we make discoveries in science, make decisions based on data, and make predictions. Statistics allows you to understand a subject much more deeply.

MEANING

“Statistics”, that a word is often used, has been derived from the Latin word ‘Status’ that means a group of numbers or figures; those represent some information of our human interest. We find statistics in everyday life, such as in books or other information papers or TV or newspapers. Although, in the beginning it was used by Kings on for collecting information about states and other information which was needed about their people, their number, revenue of the state etc. This was known as the science of the state because it was used only by the Kings.

So it got its development as 'Kings' subject or 'Science of Kings' or we may call it as "Political Arithmetic's". It was for the first time, perhaps in Egypt to conduct census of population in 3050 B.C. because the king needed money to erect pyramids. But in India, it is thought, that, it started dating back to Chandra Gupta Maurya's kingdom under Chankya to collect the data of births and deaths. TM has also been stated in Chankya's Arthshastra.

But now-a-days due to its pervading nature, its scope has increased and widened. It is now used in almost in all the fields of human knowledge and skills like Business, Commerce, Economics, Social Sciences, Politics, Planning, Medicine and other sciences, Physical as well as Natural.

Some Uses of Statistics in Daily Life

Here we will talk about some of the more common uses of statistics in our daily life. There is a bunch of uses of statistics that we encounter in our daily life. According to **Cecil H. Meyers** "*Statistics may be defined as a science of numerical information which employs the processes of measurement and collection, classification, analysis, decision-making and communication of results in manner understandable and verifiable by other*". When we gossip about the uses of statistics in our daily life we must think about all the functions of statistics.

CENSUS

Census is one of the most important part of statistics that is used by the government organizations. Census is done by the government organizations in every ten years but the resultant data helps both government and private organizations in understanding population distinctiveness. By the help of census we can aware of our population growth, religions growth, sex ratio of male and female, education level, and many more information about the human population. It is possible by help of questionnaire which is making by statistical experts and provides various inferences are drawn from the data that the government organizations gather through census. Like human census, in every five years livestock census has done by government to know the different characteristics of any particular animal like cows, buffalo, sheep, etc. It may be done by state level and country level.

SAMPLING

The data involved in the statistics we are generally taking into account mostly samples. The uses of statistics are mostly applied to a sample of the whole population. The sample helps us understand the whole population. This sample can belong to a cluster of people that have to be studied by an investigator or a sample of textile that has been sampled out to know the characteristics of the whole lot.

Sampling is performed in every industry in every business and even at homes. This sampling makes it easier and possible for us to understand the characteristics of the whole population. Ladies take sample of rice when she cooked the rice. She has not needed to check the whole lot of rice. Often sampling is used in the medical science like blood test of any person. There is need of only sample of blood. If we want to investigate the strength of chalk then we have to take only one or two chalk for investigation of strength of chalk from the lot. There are so many use of sampling in our daily life.

PREDICTIONS

Statistics facilitate us make predictions about something that can occur in the future. On the basis of what we come upon in our daily life we make predictions about the future. How perfect that prediction will be depends on many

factors. When we make a prediction we keep into account the external or internal factors that might affect our future. The same statisticians use when they apply statistical techniques to forecast an observable fact.

Doctors, engineers, artists, and businessmen all use statistics to make predictions about future events. For example, doctors use statistics to be aware of the future of a disease. They are better able to predict about the dominance of flu each winter season through the use of statistics. Engineers use statistics to predict about the achievement of their ongoing project, they also use statistics to predict how long it will take to complete a plan. More than anyone politicians use statistics to predict future and to create very essential decisions.

QUALITY TESTING

Quality testing is another very important use of statistics in every field of life. On usual basis we do quality testing to make certain that our purchases are correct and to get the most excellent results from what we spend. We test a sample of what we expect to purchase in order to make sure that we will find the best. If the sample that we tested passes the quality test then we want to buy it.

When we go to the general stores sometimes companies promote their products by advertising free samples of their products. These samples help us determine whether they are good enough to be purchased or not. Although such marketing strategy help entice more consumers towards their product but a wise consumer can easily determine whether the product is worth buying or not.

INFERENCES AND CAUSALITY

One intention and use of statistics is to draw conclusions, make inferences, and draw causality about an incident or a situation. In routine life we use statistics to do the same; for example, if someone gets sick we use sometimes simple and sometimes complicated ways to find out the cause. Doctors ask questions from the patient and execute some tests to know the cause of a disease. In medical science, researchers use the data available from various hospitals and caregivers to figure out the reason at the rear of a disease and its dominance. Doctors can control the dominance of any disease by the knowledge of statistics. In medical research clinical trials are playing very significant role to make perfect drugs for various types of diseases.

BUSINESS

Statistics plays an important role in business. It helps a businessman to plan his production according to the taste and preference of the customer. It also helps to determine the quality of the product. A businessman can make correct decision regarding the location of business, marketing of the products, finance, resources, etc...through statistics. In business there is huge use of forecasting and testing of hypothesis. By using these statistical tools they can improve their business. For this they are hiring the business analyst. Business analyst has used statistical tools for improving the business.

There are three major functions in any business enterprise in which the statistical methods are useful. These are as follows:

- **The Planning of Operations:** This may relate to either special projects or to the recurring activities of a firm over a specified period.

- **The Setting up of Standards:** This may relate to the size of employment, volume of sales, fixation of quality norms for the manufactured product, norms for the daily output, and so forth.
- **The Function of Control:** This involves a comparison of actual production achieved against the norm or target set earlier.

In case the production has fallen short of the target, it gives remedial measures so that such a deficiency does not occur again. A worth noting point is that although these three functions-planning of operations, setting standards, and control-are separate, but in practice they are very much interrelated.

ECONOMICS

Statistics play an important role in home economics. House wife make budget for her family to live life with happiness. This is only possible by the use of statistics. Economics largely depends upon statistics. . In economics statistical methods are used for collecting and analysis the data. The relationship between supply and demands is also studied by statistical method. In large scale, the imports and exports, the inflation rate, the per capita income are the problems which require good knowledge of statistics. By the help of time series data, we can increase or decrease the supply of commodities.

MATHEMATICS

According to Prof. A. L. Bowley “Statistics are numerical statements of facts in any department of enquiry placed in relation to each other.” Statistics is a branch of applied mathematics. Generally for any purpose human habitually find the average of anything. This is also statistical tools which can be learning by study of measures of central tendency. The average size of male shoes is 9 (In India). This analysis is done by median which is also a part of measures of central tendency. The large number of statistical methods like probability averages, dispersions, estimation etc... is used in mathematics and different techniques of pure mathematics like integration, differentiation and algebra are used in statistics. Thus statistics and mathematics are interrelated with each other.

BANKING

Statistics play an important role in banking. The banks make use of statistics for a number of purposes. The bankers use statistical approaches to estimate the numbers of depositors and their claims for a certain day.

One cannot completely rely on statistical data as it may not be accurate. Proper research and development program should also be exercised while analyzing statistical data.

Statistics is not an easy subject to deal with. Many institutes and colleges give assignment on statistics to the student for which expertise knowledge is required. Student dealing on this subject may require help of the experts or tutor. In spite of searching here and there, one can just view this website assignmenthelp.net. This is an online site that has been successful in handling students work in effectual way. We have all sorts of facilities that will help to clear all your doubts regarding any assignment of any subject. It is supported with experienced and hardworking teachers who are 24*7 available for your help.

ENGINEERING STATISTICS

Engineering statistics blend engineering and statistics using scientific methods for analyzing data. Engineering statistics involves data concerning manufacturing processes such as: component dimensions, tolerances, type of material, and fabrication process control. There are many methods used in engineering analysis and they are often displayed as histograms to give a visual of the data as opposed to being just numerical.

Examples of methods are:

- Design of Experiments (DOE) is a methodology for formulating scientific and engineering problems using statistical models. The protocol specifies a randomization procedure for the experiment and specifies the primary data-analysis, particularly in hypothesis testing. In a secondary analysis, the statistical analyst further examines the data to suggest other questions and to help plan future experiments. In engineering applications, the goal is often to optimize a process or product, rather than to subject a scientific hypothesis to test of its predictive adequacy. The use of optimal (or near optimal) designs reduces the cost of experimentation.
- Quality control and process control use statistics as a tool to manage conformance to specifications of manufacturing processes and their products.
- Time and methods engineering use statistics to study repetitive operations in manufacturing in order to set standards and find optimum (in some sense) manufacturing procedures.
- Reliability engineering which measures the ability of a system to perform for its intended function (and time) and has tools for improving performance.
- Probabilistic design involving the use of probability in product and system design

System identification uses statistical methods to build mathematical models of dynamical systems from measured data. System identification also includes the optimal design of experiments for efficiently generating informative data for fitting such models.

Engineering statistics dates back to 1000 B.C. when the Abacus was developed as means to calculate numerical data. In the 1600s, the development of information processing to systematically analyze and process data began. In 1654, the Slide Rule technique was developed by *Robert Bissaker* for advanced data calculations. In 1833, a British mathematician named Charles Babbage designed the idea of an automatic computer which inspired developers at Harvard University and IBM to design the first mechanical automatic-sequence-controlled calculator called MARK I. The integration of computers and calculators into the industry brought about a more efficient means of analyzing data and the beginning of engineering statistics.

METEOROLOGY

By the help of statistics, meteorology forecast the weather report. Use of regression models, auto correlation and many more statistical tools are used for forecasting the weather report. Statistics is playing very important role to handle the disaster like floods, cyclones, etc. It gives us the accurate forecasts the mishappening for human life. By use of statistics we protect ourselves and save our planet and country. Recently, In Orissa, the meteorology department forecasts the cyclone 'Fonni'. This can be possible by the help of statistics and satellites. After that the government of Orissa makes

a suitable plan for this cyclone and save so many humans life. But in past years it was not possible.

To succeed, meteorologists and statisticians had to work together since neither group was likely to have full knowledge of the other's field. Meteorologists could provide advice on which physical properties were dynamically related and statisticians could "crunch the numbers." For example, there is a strong correlation between air mass type and air temperature. If the air mass changed (the front passed by) suddenly, then the statistical prediction would fall apart. Statistical techniques had to be used together with a subjective analysis of the atmospheric situation to be effective.

As promising as it seemed, in the 1950s the use of statistics in meteorology was actually restricted to the use of statistics in climatology. Climatological studies began during World War II and continued after the war, allowing meteorologists to compute probabilities for temperature and precipitation in a given locality for a given week, month, or season. These climatological statistics offered the promise of clues to general atmospheric circulation and short-term forecasts.

Improved data collection and analysis, as well as statistical techniques, gradually made statistical meteorology more acceptable. Increased computer capability allowed the inclusion of more atmospheric variables, which heightened the physical reliability of the result. Particularly in hurricane and tornado forecasting, statistical methods would become critical for determining where these severe weather systems were most likely to strike.

STATISTICAL MEASURES IN ASTRONOMY

Cosmologists are trying to find answer by comparing data from horde astronomical objects to theories of the universe's formation and evolution. For example, before the 1990 invention of the Hubble Space telescope, the Hubble constant- unit of measurement used to describe the expansion of the universe could only be inferred ever so slightly, and cosmologists had to make do performing simple statistical analysis. Now a days, advancement of technology flood of new data, escort in the era of precision cosmology.

Statistical Measures in Astronomy:

- Availability of stars/galaxies sources an unbiased sample of the vast underling population. (Sampling)
- By use of Multivariate classification we can divide these objects into 2/3/4..... classes.
- By Multivariate regression tries to find the intrinsic relationship between two properties of a class especially with confounding variables.
- We can answer such questions in the presence of observations with measurement errors & flux limits by Censoring, truncation & measurement errors.
- Through Time series analysis we can estimate the vast range of variable objects.
- With the help of spatial point processes & image processing we can make 2-6 dimensional points like galaxies in the universe, photons in detector.
- Through density estimation and regression, we can estimate the continuous structures like cosmic microwave background fluctuations, interstellar medium.

AGRICULTURE

The agricultural investigations are based on the application of statistical methods and procedures which are helpful in testing hypotheses using observed data, in making estimations of parameters and in predictions. The application of statistical principles and methods is necessary for effective practice in resolving the different problems that arise in the many branches of agricultural activity. Because of the variability inherent in biological and agricultural data, knowledge of statistics is necessary for their understanding and interpretation. Numerous activities in agriculture are very different from each other, resulting in different branches of agricultural science like: field crop production, vegetable production, horticulture, fruit growing, grape production, plant protection, livestock, veterinary medicine, agricultural mechanization, water resources, agricultural economics etc. The importance of statistical science in agriculture is obvious, where the collection, analysis and interpretation of numerical data are concerned. Statistical principles apply in all areas of experimental work and they have a very important role in agricultural experiments. Statistics plays an important role in experimentation, while many scientific problems could be solved by different statistical procedures.

Some application of statistical methods used to resolve the problems in genetics and plant breeding, crop production concerning different conditions of agrotechnics and plant protection, type of soils, localities, varieties, sorts, hybrids, conditions of irrigation, use of herbicides, plant physiology, plant biochemistry, genetics and livestock breeding, animal physiology, livestock production concerning different races, different conditions of animal nutrition, protection, etc. Some other examples of the use of statistics are related to: the method of production functions in wheat, maize and sugar beet production, etc, the influence of particular factors on agricultural production, measuring of contribution of production factors and technical progress to the growth of national product, tendencies of production lines in agriculture, etc.

CONCLUSIONS

This paper deals with the use and importance of statistics. Without statistics we cannot imagine the presence of life, in each and every steps of life every person use the statistics in various form. The increasing demand for more and better statistics has brought to the front position the importance of statistics as a strategic resource for national and international development. Statistics are now recognized internationally as part of the enabling environment for the development. Government constitute an essential element in improving the ability to develop appropriate policies, manage the economy and social development reform policies, monitor improvements in the living standards of the people and report back this progress to the public using solid evidences. Statistics are needed by organizations other than governments (both international and local). According to the World Bank, good quality statistical data are needed to manage results, to set targets and monitor outcomes, to design development policies and strategies, to make evidence-based decisions about allocation and management of scarce resource.

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